In the Claims

1. (currently amended) A method for ~~synthesis of biological macromolecules~~ *in vitro* transcription of mRNA and/or translation of polypeptides, the method comprising:

synthesizing said ~~biological macromolecules~~ mRNA and/or polypeptides in a cell-free reaction mixture comprising an antifoam agent.

2. (original) The method of Claim 1, wherein said synthesis of biological macromolecules comprises translation of mRNA to produce polypeptides.

3. (original) The method of Claim 2 wherein said synthesis also comprises transcription of mRNA from a DNA template.

4. (original) The method of Claim 2, wherein said reaction mix comprises a volume of greater than about 15 μl.

5. (original) The method of Claim 2, wherein said reaction mix comprises a volume of greater than about 100 μl.

6. (previously presented) The method of Claim 5, wherein said reaction has a yield that is at least about 90% of the yield in a comparable small scale reaction.

7-10 (canceled)

11 (previously presented) The method of Claim 1, wherein the anti-foam agent is present at a concentration of at least about 0.00007%, and not more than about 0.007% by weight.

12. (previously presented) The method of Claim 11, wherein the anti-foam agent is a block copolymer that provide defoaming/antifoaming action by forming an insoluble monolayer at the air/water interface of the foam.

13. (currently amended) A method for ~~synthesis of biological macromolecules~~ *in vitro* transcription of mRNA and/or translation of polypeptides, the method comprising:

synthesizing said ~~biological macromolecules~~ mRNA and/or polypeptides in a cell free reaction mixture comprising:

a cell extract; a template for production of the ~~macromolecule~~ mRNA and/or polypeptides; monomers for the ~~macromolecule~~ mRNA and/or polypeptides to be synthesized; and such co-factors, enzymes and other reagents that are necessary for the synthesis; and an anti-foam agent at a concentration of at least about 0.00007%, and not more than about 0.007% by weight.

14. (currently amended) The reaction mixture of ~~Claim 7~~ Claim 1, wherein the anti-foam agent is present at a concentration of at least about 0.00007%, and not more than about 0.007% by weight.

15. (currently amended) The reaction mixture of ~~Claim 7~~ Claim 1, wherein the anti-foam agent is a block copolymer that provide defoaming/antifoaming action by forming an insoluble monolayer at the air/water interface of the foam.

16. (previously presented) A reaction mixture for cell-free synthesis of biological macromolecules, comprising:

a cell extract; a template for production of the macromolecule; monomers for the macromolecule to be synthesized; and such co-factors, enzymes and other reagents that are necessary for the synthesis; and an anti-foam agent at a concentration of at least about 0.00007%, and not more than about 0.007% by weight; and

an anti-foam agent at a concentration of at least about 0.00007%, and not more than about 0.007% by weight.

17. (new) The method of Claim 1 wherein oxidative phosphorylation is activated in the cell-free reaction mixture.